keeping operations may be performed in between operations, or operations may be adjusted so that they occur at slightly different times, or may be distributed in a system which allows the occurrence of the processing operations at various intervals associated with the processing, as long as the processing of the overlay operations are performed in the desired way.

[0157] Although the foregoing invention has been described in some detail for purposes of clarity of understanding, it will be apparent that certain changes and modifications can be practiced within the scope of the appended claims. Accordingly, the present embodiments are to be considered as illustrative and not restrictive, and the various embodiments of the present invention is not to be limited to the details given herein, but may be modified within the scope and equivalents of the appended claims.

1. A method, comprising:

detecting, by a sensor of a head mounted display (HMD), that the HMD is being worn by a user, the detecting identifies proximity of a face of the user to the sensor of the HMD;

detecting, by the sensor of the HMD, an encoded signal indicative of glasses being worn by the user while wearing the HMD;

disabling, by the HMD, a gaze detection function of the HMD responsive to processing of the encoded signal from said glasses; and

receiving, by the HMD, encoded gaze data from said glasses, the encoded gaze data being used by an image frame processor that produces image frames for rendering on a display screen of the HMD.

2. The method of claim **1**, wherein the sensor is configured with a dual function, wherein a first function is configured to detect proximity of a user, and a second function is configured for receiving said encoded signal and said encoded gaze data.

3. The method of claim **1**, wherein the encoded signal includes predefined pulses of light, the pulses of light provide encoded data that is indicative of presence of said glasses.

4. The method of claim **1**, wherein said encoded data identifies a model of said glasses and functional attributes of said glasses including data related to power level of said glasses.

5. The method of claim **1**, wherein disabling includes communicating with the gaze detection function to disable a process operated by the gaze detection function,

wherein the disabling includes deactivating one or more optical elements disposed on the HMD for emitting light toward eyes of the user and deactivating at least one image sensor for capturing images of the eyes of the user while being illuminated by the one or more optical elements.

6. The method of claim **1**, wherein disabling the gaze detection function of the HMD further includes enabling gaze detection function of the glasses via a signal from the HMD to the glasses, wherein enabling the gaze detection function of the glasses includes engaging one or more infrared (IR) lights and one or more cameras of the glasses to capture images of the eyes of the user, and processing the captured images to generate gaze data for onward transmission to a processor of the HMD,

wherein the processor of the HMD is configured to communicate the gaze data to a computer.

7. The method of claim **6**, wherein the computer is integrated into the HMD or operates as a separate computer that is communicatively coupled to the HMD through wireless or wired connection.

8. The method of claim **6**, wherein processing the images includes performing pre-processing of the images by the processor of the HMD to identify gaze data received from said glasses prior to forwarding to the computer.

9. The method of claim **6**, wherein processing the images includes packetizing data representing the images for transmitting to the computer for further processing to identify gaze data, wherein the data that is packetized is raw gaze data received from said glasses.

10. The method of claim **1**, wherein the encoded gaze data is received as optical pulses, the optical pulses are triggered at a rate and frequency that is predefined, the optical pulses used to construct coded data that embodies gaze data detected by the glasses, the optical pulses transmitted to the sensor of the HMD for further processing by a processor of the HMD.

11. The method of claim **1**, wherein the image frame processor is executed by a computer communicatively coupled to the HMD, the computer configured to produce frames of content for rendering on the display screen of the HMD, wherein the frames of content being modified based on the gaze data.

12. The method of claim **11**, wherein the modification includes adjusting the frames of content to include foveated regions, said foveated regions identified based on the gaze data.

13. The method of claim **12**, wherein data for said foveated regions are produced with higher resolution relative to non-foveated regions that surround said foveated regions.

14. The method of claim **12**, wherein using said gaze data to include foveated regions causes reduction in data rate transmission for the image frames transmitted by the computer for rendering on a display screen of the HMD.

15. The method of claim **1**, wherein the signal encoding data is a wireless signal communicated by the glasses to the HMD via a wireless, near-field communication connection.

16. The method of claim **1**, further includes enabling the gaze detection function of the HMD to capture the gaze data of the user, when no glasses is detected by the sensor of the HMD, the enabling operates a process of activating at least one optical element on the HMD to illuminate eyes of the user and at least one sensor on the HMD for capturing position and gaze of the eyes of the user while the optical element on the HMD is illuminating the eyes of the user.

17. A system for tracking gaze information of a user, comprising:

glasses having a pair of lens disposed in a frame, the pair of lens configured to provide vision correction based on vision attributes of a user wearing the glasses, the glasses includes,

a gaze sensor located on the glasses and directed toward eyes of the user to capture gaze data of the user;

a gaze processor configured to,

generate an encoded signal that is indicative of the glasses worn by the user while the user is wearing a head mounted display (HMD);

process the gaze data captured by the gaze sensor to generate encoded gaze data;